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FACTS ABOUT

OUTFALL CONTINGENCY PLAN

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WHAT IS THE OUTFALL CONTINGENCY PLAN?

MWRA developed the Outfall Contingency Plan to identify and respond to any water quality changes that might result from effluent discharges to Massachusetts Bay. Although it is unlikely that effluent discharges will affect the environment, the Contingency Plan describes the criteria and processes MWRA would use to assess potential changes, make information on those changes available to the public and respond to any changes to avoid harm to the marine environment.

HOW DOES THE CONTINGENCY PLAN WORK?

The Contingency Plan identifies "trigger parameters" that can suggest that effluent quality or environmental conditions may be changing or likely to change in the future. To alert MWRA to different degrees of observed change, each trigger parameter has thresholds that are defined as "**caution**" or "**warning**" levels.

In the event that one of these thresholds is exceeded, the Plan sets in motion a process to:

- confirm that the threshold has been exceeded;
- determine the causes and significance of the exceedance; and
- identify a response that will be taken to return the trigger parameter to a level that is below the relevant threshold, if the suggested changes can be attributed to the outfall.

These thresholds, are defined in the extensive monitoring program that MWRA performs under its Outfall Monitoring Plan and its National Pollutant Discharge Elimination System (NPDES) permit.

WHAT TYPES OF RESPONSES DOES THE PLAN RECOMMEND?

MWRA's proposed response will vary somewhat depending on whether the threshold exceeded is a "**caution**" or "**warning**" level. MWRA takes more extensive action when a **warning** level is exceeded. The first response to any threshold that has been exceeded will be to determine whether plant operations can be altered to reduce the discharge of the relevant pollutant.

If MWRA discharges have caused a **caution** level to be exceeded, the proposed response will include the development of an "**Expanded Monitoring Plan.**" The Expanded Monitoring Plan is designed to:

- closely track any change in effluent quality and environmental conditions;
- evaluate the cause and effect of the exceedance; and
- review applicable trigger parameters and thresholds.

If the threshold exceeded is a **warning** level, the proposed response will include the development of a "**Response Plan.**" A **Response Plan** is intended to describe MWRA's plan and schedule for returning the trigger parameter to acceptable levels.

This plan may include the time frames and descriptions of additional studies needed to better determine the cause and effect of a threshold exceedance and the most practical and effective remediation solution. Such studies may range from performing additional monitoring to undertaking an Engineering Feasibility Study regarding potential engineering- and construction-related "corrective activities."

What are “corrective activities?”

“Corrective activities” are activities identified in advance as potential solutions to unexpected outfall impacts. If effluent discharges must be reduced, examples of corrective activities could include the addition of specific enhanced treatment technologies and increased pollutant prevention.

The primary goal of the Contingency Plan is to establish that corrective activities are available to cover a range of potential environmental concerns. Since wastewater technology is changing rapidly – and a design completed today could be obsolete by the time it was needed – the Contingency Plan does not attempt to go beyond a preliminary assessment of the design of these activities.

Is the Contingency Plan accountable to the public?

To ensure that the Contingency Plan provides appropriate environmental protection, every step of the implementation process – from document creation and modification to the development and implementation of a response to a threshold exceedance – will be open to public input and review from outside MWRA.

Contingency Plan Process

Step 1

- Identify threshold exceedance during early review of all monitoring data.
- Notify plant staff, Outfall Monitoring Task Force (OMTF) and regulatory agencies.

Step 2

- Report exceedance caused by MWRA discharges in quarterly ***Wastewater Performance Report***.
- Conduct other notification as required by NPDES permit.

Step 3

- Solicit input from OMTF, regulatory agencies and other groups as required or needed.
- Develop and implement proposed response.
- Summarize and report response plans – including action steps already taken – in ***Wastewater Performance Report*** within 90 days of notice.

MWRA will produce a quarterly ***Wastewater Performance Report***, to provide the public with information on any threshold exceedances and MWRA's proposed responses. The report is designed to:

- provide information about key MWRA wastewater operations;
- demonstrate day-to-day progress in achieving MWRA goals and objectives;
- compare actual performance against Contingency Plan trigger parameters and other important water quality monitoring or plant performance targets.

Once a year MWRA will develop an Outfall Monitoring Overview/Contingency Plan report that will be submitted to the Outfall Monitoring Task Force and the Court and shared with the public. The report will summarize any activities taken pursuant to the Plan over the previous year, including any threshold exceedances and associated responses. The report will also propose changes to the Contingency Plan as needed. Changes are expected to be guided primarily by recommendations made to MWRA by the OMTF. If you have changes you would like MWRA to consider, send your proposals either to the OMTF or to MWRA.

How will the Contingency Plan be enforced?

As a discharger to surface waters, MWRA is obligated to comply with a variety of state and federal regulations:

- The NPDES permit imposes extensive requirements on MWRA discharges, including effluent monitoring, reporting, plant maintenance and operations and the industrial pretreatment program. Requirements for the CSO program and sludge-to-fertilizer plant are also included;
- A Federal Court Order guides the construction of the new treatment facilities, sludge-to-fertilizer plant and CSO projects and the industrial pretreatment program, as well as treatment plant staffing;

- The Massachusetts Executive Office of Environmental Affairs and EPA oversee the development and implementation of MWRA's Outfall Monitoring Plan, which has also been submitted to the Federal Court.

To ensure that even greater oversight and enforcement opportunities are provided, MWRA intends to submit the Contingency Plan to the Federal Court in the same manner as the Outfall Monitoring Plan. The Contingency Plan and the Outfall Monitoring Plan are integrally related, and Federal Court oversight has been useful by providing a balance of enforcement authority and flexibility.

The Contingency Plan is designed to build on and be consistent with MWRA's existing regulatory and judicial obligations. The Plan also represents the voluntary assumption of obligations beyond those that already exist, supported by accountability to the court, the regulatory agencies and the public.

SUMMARY OF WATER QUALITY ISSUES ADDRESSED BY THE PLAN

ISSUE	TRIGGER PARAMETERS	POTENTIAL CORRECTIVE ACTIVITIES
Nutrients	Total nitrogen; Dissolved oxygen; Oxygen depletion rate; Chlorophyll; Paralytic shellfishing poisoning; Nuisance algae; and Depth of oxygenated sediments.	Advanced treatment nitrogen removal: Nitrification technologies; and Biological aerated filter system; Fluidized-bed reactors. Denitrification technologies: Packed-bed reactors; Fluidized-bed reactors; Deep-bed filters.
Toxic Contaminants	Toxic contaminant concentrations in effluent; Toxicity to indicator species; Toxic contaminant concentrations after initial dilution; Toxic contaminant concentrations in sediments; Toxic contaminant concentrations in flounder, lobster and mussel; and Incidence of disease in flounder, lobster and mussel.	Enhance pollution prevention/ regulation; Organic polymer addition; Effluent filtration; Biological treatment; and Activated carbon.
Organic Materials	CBOD (amount of oxygen required to decompose organic material) level in effluent; and Dissolved oxygen.	Effluent filtration; Organic polymer addition
Human Pathogens	Bacteria concentration in effluent; Toxicity to indicator species.	Improve chlorination process; Alternative disinfection methods.
Solids	TSS (total suspended solids) levels in effluent; Number of species living in sediments; CBOD level in effluent; Depth of oxygenated sediments.	Effluent filtration; Organic polymer addition.
Floatables	Volume of floatables in final collections device at Deer Island; Concentration of oil and grease with petroleum origin.	Primary effluent screening Enhance educational programs.
Overall Treatment Plant Performance	NPDES permit violations.	Revise standard operating procedures.